

LONG ISLAND BOTANICAL SOCIETY

Vol. 12, No.4

The Quarterly Newsletter

Oct. - Dec. 2002

Powdery Mildews

Lance T. Biechele
Samuel Ristich

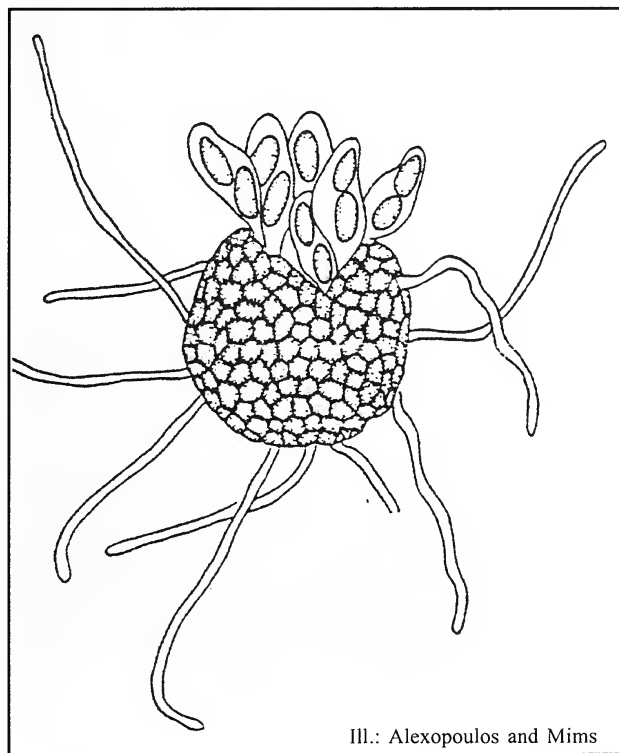
Welcome to the order Erysiphales in the division of the Ascomycetes, those fungi which produce an ascus (or sac) that releases the fungal spores. Everyone knows the mildews as white powdery coatings on a myriad of leaf hosts. But very few naturalists (or mycologists) have enjoyed the thrill of observing the anatomy of their ascus-bearing stage up close.

During the spring and summer, mildews flourish in their powdery asexual stage because, surprisingly, the spores can germinate without free water. However, during the short days and cool nights in the fall, the hyphae are stimulated into the formation of spherical fruiting structures called cleistothecia (closed balls). The dark balls are usually decorated with exquisite diagnostic structures. The cleistothecia are macroscopic, but a microscope is required for viewing the decorative ornaments surrounding the structures.

Alexopoulos and Mims (1979) recognized only six genera from North America. One of the most interesting mildews is in the genus *Phyllactina* (Figure D). *Phyllactina guttata* is commonly found on oak leaves. In response to moisture, the long, stiff needle-like appendages with bulbous bases lift the cleistothecia up off the leaf like miniature space ships. *Erysiphe* (Figure A) has thickened hyphae that look like medusa heads. One of the common species, *Erysiphe cichoracsarum* is found on garden squash, but it also occurs frequently on plantain in backyards. In the genus *Uncinula* (Figure B), the cleistothecium has a single or double button-hook appendage. Both willow and maple are its favorite hosts.

Podosphaera oxycanthae (Figure C) is found on Meadowsweet (*Spiraea latifolia*) and has elegantly sculptured hyphal tips and only one ascus. The ubiquitous lilac mildew, *Microsphaera alni*, unlike other members of its genus, lacks the dichotomously branched hyphae appendages. The haustoria, or feeding tubes, barely penetrate the upper epidermal cells and cause little, if any, damage to the host. In fact, it is this author's hypothesis that the powdery mildew of lilac might act like a greenhouse "white-wash" to protect the plant during the dry, searing heat of the summer.

(Continued on page 40)



Ill.: Alexopoulos and Mims

Cleistothecium of Erysiphaceae

Long Island Botanical Society

Founded: 1986 Incorporated: 1989

The Long Island Botanical Society is dedicated to the promotion of field botany and a greater understanding of the plants that grow wild on Long Island, New York.

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Society News

Member Memorial: After a long, yet steady, course, the dedication of the Joseph Beitel memorial plaque is finally scheduled to take place on October 5, 2002. A memorial plaque will be placed permanently in Theodore Roosevelt County Park (formerly Montauk County Park). The inscription has been settled upon. The plaque has been cast. A suitable rock overlooking Big Reed Pond has been chosen. The consent of Suffolk County Parks has been given. And a time has been agreed upon to affix the plaque. Members and nonmembers are welcome to come pay tribute to Joe, the first vice-president of LIBS, as his work is memorialized at a spot he so cared for. (See Field Trips on page 47).

Attention Deflection: The Ward Melville Heritage Organization managed a small spot on News Channel 12 in July extolling their environmental track record. Footage showed young volunteers planting about 300 plugs of *Spartina alterniflora*, with a value of less than a dollar a piece, on a wetland. Meanwhile, in their own backyard, the Ward Melville Heritage Foundation is levelling, gutting and trucking away tractor trailer loads of sand undermining an entire hillside embankment that abuts a new Suffolk County park. Local residents question the motive, financial funneling and appropriateness of this activity. The Coalition for the Future of Stony Brook Village has been urging the Ward Melville Heritage Organization not to destroy this vestige forest contiguous to the new county park. A lawsuit now pends. For more information contact the Coalition for the Future of Stony Brook Village at: (631) 751-7549.

Foiling Forest Fires: On August 22, The Bush Administration released its plan, ostensibly intended to protect neighborhoods and communities from forest fires. In reality, the plan would weaken environmental safeguards, grant additional logging on national forest lands, and limit or eliminate public input and court appeals designed to help citizens hold the government accountable. It waives environmental laws and protections on national forest lands and calls for the thinning of 25 million acres of national forest land in the next 10 years that will cost taxpayers close to \$4 billion. The plan gives the timber industry access to large, old trees located in remote areas. To express your concern, contact your local state senator to oppose the "Craig-Domenici Forest Fire Prevention Amendment".

Plants in the News

Peruvian Purveyance: Through the examination of 1,250 plant extracts from the Peruvian rainforest, Walter H. Lewis, professor of biology at Washington University found that 46% showed an inhibitory effect against *Mycobacterium tuberculosis*, the bacterium that causes tuberculosis. The results came after months of working with the native Aguaruna people of Peru through the International Cooperative Biodiversity Program-Peru. The program seeks to identify new pharmaceutical possibilities from medicinal plants and to promote cultural and economic support for the native Indians. Tropical rainforest plants produce above-average amounts of secondary metabolites, such as alkaloids. Lewis was awarded the Martin de la Cruz medal by the Mexican Academy of Traditional Medicine for his South American research among the indigenous tribes in Peru.

Letters to the Editor

Kudos for the great and fitting tribute piece you edited for the Long Island Botanical Society Newsletter. In my opinion, you did a great job and I think Bob Laskowski would agree that it was a sincere tribute, well done editorially. You are a better editor than Hugh Hefner! My wife, son and I all were touched by the nice tribute to Big Bob. I think he would be pleased to see the time and effort put into such a nice newsletter article. Keep up the great work.

Peter Warny,
New York State Museum

Beautiful eulogy to Bob Laskowski. If you have extra copies of the newsletter, I'm sure there are others who would truly appreciate this.
Thank you for taking the time to do this for him.

Kathleen O'Connor
Past President, Great South Bay Audubon Society

Carol Crasson is looking to explore the feasibility of papermaking using native plant material as the base substrate. She is also looking into the possibility of experimenting with phragmites fibers as the basis of making paper. Anyone with experience in this field please contact Carol at: (631) 267-7944.

Carol Crasson,
South Fork Natural History Society

Plant Sightings

Bird's-foot Violet: Larry Penny reported that 2002 was the best year in recent memory for the flowering of roadside Bird's-foot Violet (*Viola pedata*) in the Town of East Hampton. They seem to be making a comeback after many years of decimation beginning in the late 1980's.



Photo: John E. Potente

Bird's-foot Violet (*Viola pedata*)

White Milkweed: Jim Ash located a previously unreported population of the very rare White Milkweed (*Asclepias variegata*) along a powerline right-of-way north of Bridgehampton. The single individual was unusually robust with a highly branched stem copiously ornamented with numerous showy flowers. Currently, fewer than five populations of this rare plant are known from all of New York state.



Photo: Jim Ash

White Milkweed (*Asclepias variegata*)

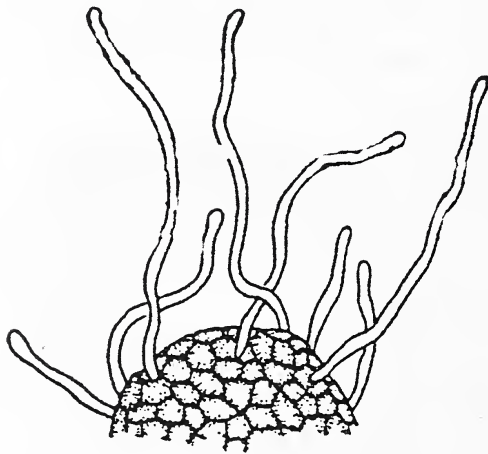


Figure A Myceloid appendages

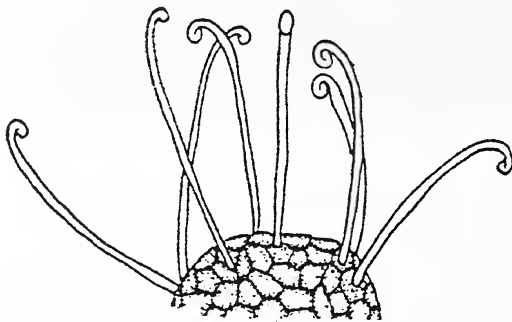


Figure B Circinoid (hooked) Appendage tips

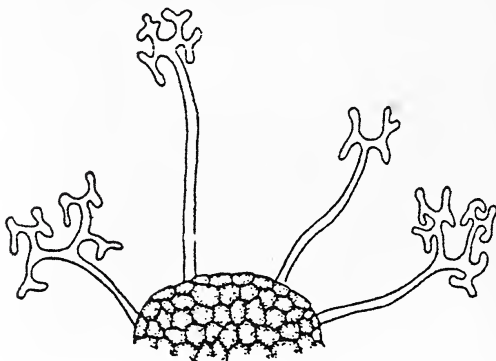


Figure C Dichotomously branched tips

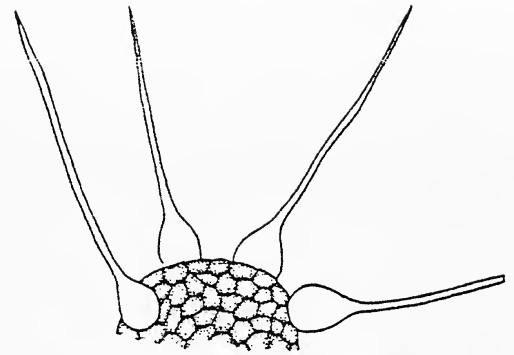


Figure D Bulbous appendage bases

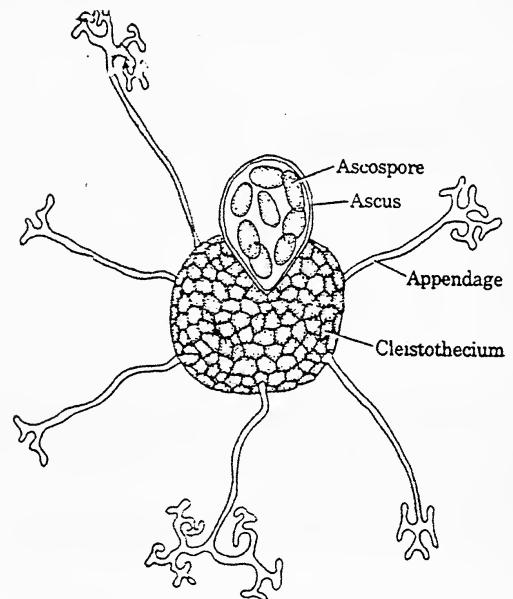


Figure E One ascus in a cleistothecium

So this winter, have a cleistothecial carnival by collecting the leaf samples in the fall when the “balls” have hardened. For microscopic observation, soften the balls in 3% Potassium Hydroxide (KOH). View the beautiful decorations first and then, by applying slight pressure on the cover slip, squeeze the asci out of the cleistothecium. And have fun with this interesting group of Ascomycetes with their wrapped-up apothecium.

I am indebted to Dr. Samuel Ristich for his kindness for allowing me the poetic license to combine his unpublished observations of the powdery mildews. Note: The drawings are reproduced from Alexopoulos and Mims.

Reference

Alexopoulos, C.J. and Mims, C. W. 1979. Introductory Mycology. 3rd ed. John Wiley & Sons, New York. pp. 298-300

Tale of a Ragged Fringe

John E. Potente

Chapter 1

March of 1952 came with its usual fluster of frost mornings pardoning an occasional skybreak of crisp blue stratosphere. I decided that this was a good time to be born.

Young newlyweds in Jamaica, Queens christened me as their first son. I looked around and learned the sights and sounds of apartment living in Richmond Hill and eyed the black asphalt streets, soot gray sidewalks and cement block two story houses from the cradling arms of my dear mother.

Further east on Long Island, 1953 invited Dick and Elsa L'Hommedieu to purchase two large parcels of land in the upper reaches of Nissequogue in Suffolk County. The five acre purchase was just under a mile from the Nissequogue River and less than a half mile from Long Island Sound; easy walking distance.

Dick and Elsa explored the area and chose to have their new country home copied from a house on Middle Country Road and a garage fashioned in the likes of a carriage house across from the Episcopal church in Smithtown. The property they set claim to was wooded and heavily entrenched with Poison Ivy (*Toxicodendron radicans*), Virginia Creeper (*Parthenocissus quinquefolia*), Bull Briar (*Smilax rotundifolia*), Japanese Honeysuckle (*Lonicera japonica*), Oriental Bittersweet (*Celastrus orbiculata*) and Multiflora Rose (*Rosa multiflora*). It may have been previously lumbered or farmed, but was now virtually impassable and thickly vined.

In 1955, a growing family business enticed my father to move us "out east" to Nassau County. The flat, treeless expanse of the Hempstead Plains were an open invitation to housing tract developers of the nineteen fifties and sixties. Potato farms had claimed the land for decades. But they were quickly succumbing to the monotone houses of the spreading suburbs.

My parents found a neighborhood to their liking on the eastern border of the 60,000 acre plains in Plainview. While, at one time, the view of the grassy plain was breathtaking, by 1955, the "plain view" was no more. For the next twenty years, split level house # 10 on the block was to be my shelter.

I watched, through the living room window, road pavers clear and level the streets and the asphalt paving machines glue tarred gravel to the ground. I leaned forward on the window sill to see the ten ton steamrollers follow and press the macadam firmly into the soil.

While I watched, in bewilderment, the ground sizzling black in front of the house, the backyard was to become a spawning ground for my interest in nature. My father would come home with fresh smelling potted shrubs to plant. It was an exciting time. My father dug and shoveled with much excitement as he heeled in fresh nursery stock of Wisteria (*Wisteria frutescens*), Mimosa (*Albizia julibrissin*) and Japanese Yew (*Taxus cuspidata*) into former Hempstead Plains habitat. Above all, he favored the Japanese Honeysuckle. He loved the sweet smell of its flowers and the privacy it offered, entwining ambitiously on our slat board fence, up the telephone poles (and on through the rest of the neighborhood).

Dick and Elsa raised two children. A yard area was cleared and they threw some off-the-shelf grass seed on the ground behind their house. The lawn was not meticulously cared, for it was merely to serve as a turf medium on which the children would play ball and run about. No fertilizers were used and certainly no herbicides for they did not want to lose the weeds that helped sustain the green ground matting.

In 1990, Dick L'Hommedieu passed away and Elsa was left to care for the property. The children were grown and were done playing in the yard. She looked over her land in the northern portion of the valley of the Nissequogue.

In 1990, I struck out on my own and purchased a small house, built in 1945, along with two acres of land in Hauppauge, the southern section of the Nissequogue valley. Hauppauge is set dead center of Long Island: hilled with morainal outcroppings, strewn with freshwater uprisings and pocketed with small streams that feed the Nissequogue at its headwaters.

The water table in Hauppauge often intersects the sloping landscape and the groundwater is then free to run along the surface. It seeks the lower elevation in the Nissequogue valley and ultimately finds its way to the ocean; in this, case, the Long Island Sound. The travelling surface water keeps the soil under it wet and the land around it misted.



John E. Potente

Elsa L'Hommedieu's land in the northern Nissequogue valley. Tall mature hardwoods provide reliable shade. After removing nonnative shrubs, vines and grasses, a moss groundcover predominates in the yard area. Many species of ferns, fungi, and wildflowers appeared along with a Ragged-fringed Orchid.



John E. Potente

Many varieties of ferns unveiled themselves and thrived in the mossy groundcover that Elsa fostered. Christmas Fern (*Polystichum acrostichoides*) particularly liked the moist habitat and had its living fronds growing all about the area.



John E. Potente

Deciding that the time was right, a single Ragged-fringed Orchid (*Platanthera lacera*) sent up a flowering stalk in the moss covered shade. The first appearance was in 1996. There were no other Ragged Fringed orchids, nearby. The above photograph was taken in late May of 2001.



John E. Potente

Many varieties of moss grew in homogenous patches and also in mixed populations amongst each other in the "degrassed" restored area of Elsa's forest.



John E. Potente

After the lawn grasses were removed, many primitive plant forms were able to return. Liverworts were another enchanting treat that covered the bare, moist, exposed soil.

Now that Elsa was to carry the full load of caretaker, she took a careful look at her holding. She noticed that there was a green cast of moss growing under her grass and considered that if she removed the grass, more moss would grow. Moss should certainly be easier to care for than grass. No cutting, trimming or caring of lawn clippings would be necessary. In 1991, she knelt down and began picking out the blades of grass.

That same year, 1991, I looked over my new two acres of land. As I was overwhelmed by this oversized parcel, I walked the property in search of a landscaping theme. I remembered the surveyor who marked the boundaries of my tract saying, "You have a small oasis here in the middle of suburban western Suffolk." Those words rung in my ears.

I thought of robins darting through the wooded portions so quickly and assuredly, as if the branches weren't even there. I remembered a box turtle grabbing at the ground for each slow and steadied step forward. I looked up at the tops of the trees that inched past each other for the highest reach. I thought of nature. And I thought of what I could do to help it work the way it would perform best.

I envisioned a landscape with the plants that belonged there. I searched for information that, at that time, was not readily available. Then, I heard of a speaker who was giving a lecture on "native plants".

I attended the lecture in February of 1991 and as I sat and listened, I was convinced that this was what I wanted. I bought her book at the end of her lecture and waited my turn to have a personal inscription with her autograph: "To John, Go Wild", signed, "Karen Blumer".

And I did. From then on I would get down on my hands and knees and return my newly acquired property to a wild and native land. All the ornamental and nursery stock plants would be dug up and removed. The weeds that accompanied them would also be cut and torn out. And the grasses and crops that were planted for forage and farming over the past hundreds of years would go also.

I would leave only the native plants that were indigenous to Long Island. No easy task. How would I know which plants belonged? There was no consumer-friendly internet. There were few books on the subject for the lay person. And I knew of no one knowledgeable on the subject who could and would botanize my yard, until I met Andrew Greller.

I talked with Andrew when he was giving a nature walk for The Nature Conservancy around Church Pond in Cold Spring Harbor and he agreed to inventory my property. Finally, in May of 1991, after hours of leafing through tree specimens and handling grasses and wildflowers, I was handed the valuable checklist of the native and nonnative plants of my yard.

Two years later, in 1993, I discovered the elusive Long Island Botanical Society. I found the people who knew and actually got excited about a native plant. Among them was an energetic and tireless student of botany: seventy-two year old Elsa L'Hommedieu.

Elsa had wasted no time learning about the natural world when she came to Nissequogue in 1953. She collected nature guides on plants, insects, birds, parks and preserves. She diligently wrote in the margins her observations and marked many of the pages with collected specimens. By the nineteen seventies many of her guide books were filled with specimens collected on Long Island and elsewhere.

Elsa was ready and waiting when the Long Island Botanical Society was formed in 1985. She was one its earliest members and was continuously soaking up information on plant identifications by attending local field trips of the Long Island Botanical Society and the more distant trips of the Torrey Botanical Society.

Elsa had a simple rotary phone on a cherry wood stand. If you called after seven in the morning, you would not reach her. She had no answering machine and by seven she was already out in the yard removing unwanted plants from the ground. She would cut and lop the woody plants and border her property with the discarded branches and leaves. After a few years the brush piles surrounded her entire five acres.

The progress was slow, but after a few years, began to look "natural" and, before long, the land began to resemble a healthy northeast deciduous forest. The moss groundcover became a field of fertility for native woodland plants. Tall mature oaks, hickories, Hackberry (*Celtis occidentalis*), Sassafras (*Sassafras albidum*), and cedar assumed a climax forest role.

Initially, Elsa was simply clearing away the congestion to allow for the native plants to breathe. But after a few years, other native plants, particularly herbaceous wildflowers appeared. And in the spring of 1996, Elsa's prize plant emerged. Through the green moss, succulent leaves unfurled of a Ragged-fringed Orchid (*Platanthera lacera*). (To be continued)

Field Trip Highlights

Fire Island Field Trip Saturday, July 20, 2002 Led by Gerry Moore of the Brooklyn Botanic Garden

This was to have been a joint field trip with the Torrey Botanical Society, but turned out to be a totally LIBS trip. The 9 LIBS members were lucky to attend.

We began by combing the upper tide wrack on the ocean beach and finding there both Seabeach Amaranth (*Amaranthus pumilus*) and Seabeach Knotweed (*Polygonum glaucum*), both good finds.

Up in the dunes, Gerry led us through a number of damp swales, rich in a profusion of Spring Lady's Tresses (*Spiranthes vernalis*), Mock Bishop's weed (*Ptilimnium capillaceum*), and the bright pink stars of Annual Marsh Pink (*Sabatia stellaris*). To top it off, he was able to find a small colony of Adder's-tongue Fern (*Ophioglossum pusillum*) in the final swale approaching Democrat Point.

We are grateful to Gerry for his expertise, his sense of humor and his low-key manner. Despite the preponderance of Deer Ticks, it was a day of delights!

Field Trip to the Quogue Refuge Saturday August 17, 2002 Led By Jenny Ulsheimer

Although the featured White-Fringed Orchid (*Platanthera blephariglottis*) had finished blooming, one member of the group had counted 30 plants there on July 15th, barely beginning to bloom. We resolved to return the first of August, next year.

Nevertheless, the highlights were many. Skip Blanchard found Saunders' Round-leaved Thoroughwort (*Eupatorium rotundifolium* v. *sundersii*), a form with deeply-toothed leaves. We enjoyed a look at Pitcher Plant (*Sarracenia purpurea*), licking its lips over the bugs it had caught. Then followed a study of two not-too-common members of the Heath family, Dangleberry (*Gaylussacia frondosa*) and Maleberry (*Lyonia ligustrina*). The final treat was Massachusetts Fern (*Thelypteris simulata*) which simulated Marsh Fern and so is often overlooked. Though the day ended with a picnic lunch (and a list of 123 species) at the parking area, Skip and Rich Kelly browsed around the pond edge and turned up Bog Aster (*Aster nemoralis*). Not bad for a half day field trip!

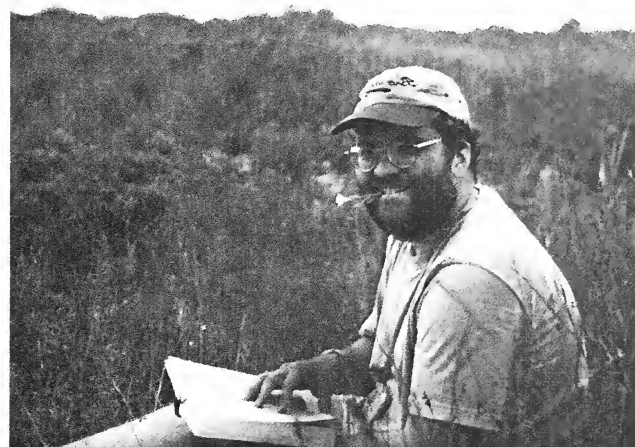
Caumsett Field Trip Sunday, September 15, 2002 Led by Jenny Ulsheimer and Barbara Conolly

The day threatened rain all day, but nevertheless, Skip, Rich Kelly, Bill Redshaw, Zu Proly, Virginia Dankel, Jenny and Barbara decided to take a chance. We lucked out - a few drops fell as we began but for the four hours we were out, no more rain fell until we were approaching our cars at the end.

Because Barbara, Betty Lotowycz, Art McManus, and Shirley Melum had done a botanical survey of Caumsett in 1974-75-76, Barbara had brought the map that they used with the locations of some rare and interesting plants that they had listed almost 30 years ago, in the hopes that some of them might have survived.

The first location was a side lane east of the back road (Fisherman's Drive) and we immediately walked into the woods right up to a thriving colony of the Broad Beech Fern (*Thelypteris hexagonoptera*). This is the uncommon southern variety of Beech Fern. Skip mentioned another location at Big Reed Pond in Montauk.

The second location we tried was not so successful because the successional forest had obliterated the old landmarks near the water towers, so we were not able to find the Grape Ferns or the other stand of Broad Beech Fern, but after diligent searching, Skip turned up the final sought-after species, Starry Cam-pion (*Silene stellata*). It was a single plant, growing amongst White Wood Aster (*Aster divaricatus*) and its fringed whited flowers were tough to pick out amongst the asters. Good find, Skip!



Gerry Moore field guiding at Fire Island

Photo: John E. Potente

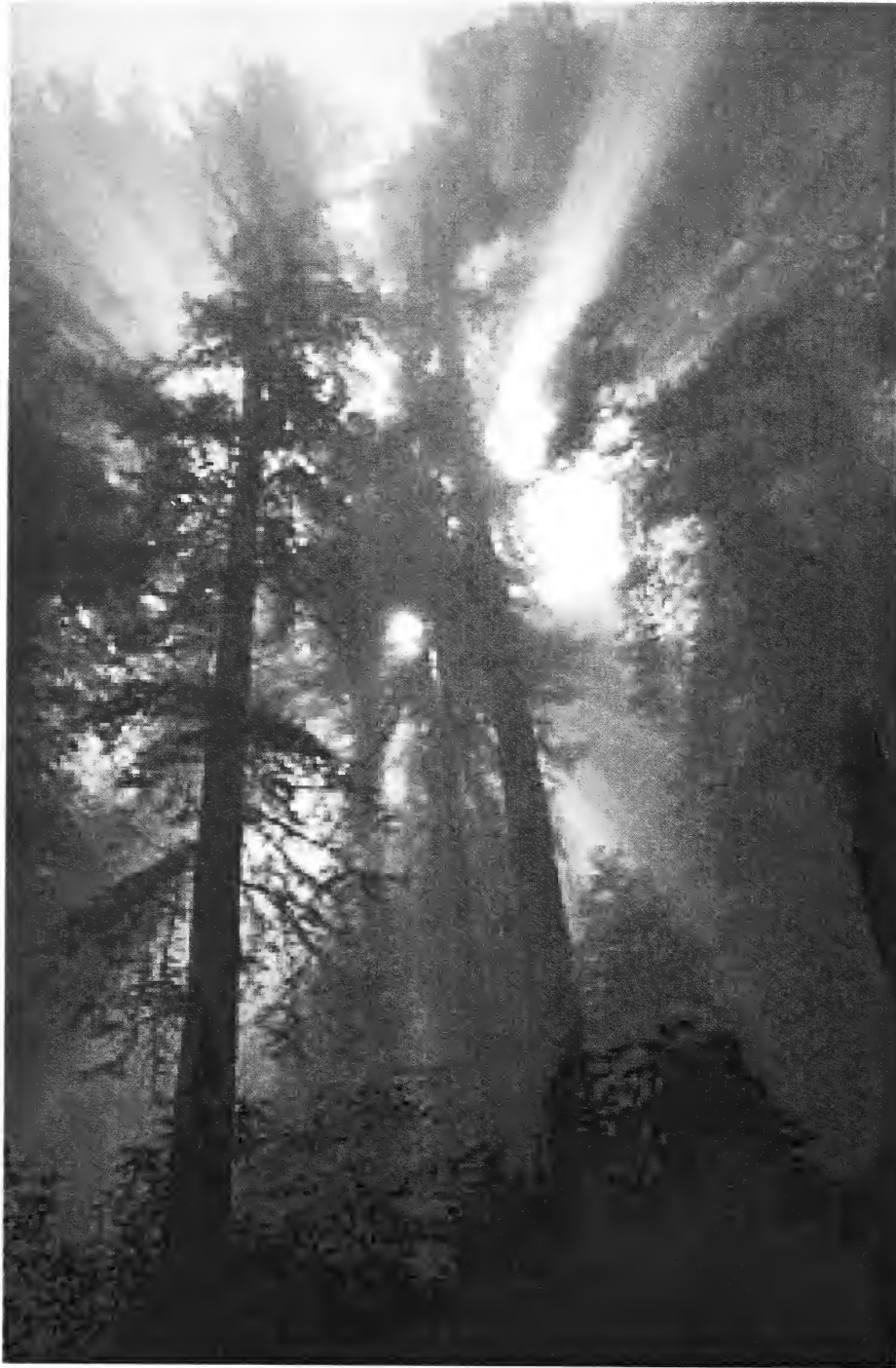
Earth's Christmas Tree

My arms barely curve around
centuries of furrowed circumference
I press into the Sequoia
in the Mariposa Grove
Everything is heavenward
about this conifer
Eight-foot thick branches
begin two hundred feet high
and in the sky -- crown of evergreen
I marvel at the millennia in this Old Growth
this tree rising above Sierra snow
heralding the Star

Maxwell Corydon Wheat, Jr.

from the book

Following Their Star: Poems of Christmas and Nature



Field Trips

Oct. 5, 2002 @ 11:00 AM (Saturday)

**Theodore Roosevelt County Park, Montauk, NY
Dedication of the Joseph Beitel Memorial Plaque**

Joseph M. Beitel was the first vice-president of LIBS. An inspiring teacher and a tireless field trip leader, Joe was on of the original members of the society's Flora Committee and one of its guiding spirits. An expert on ferns and orchids, it was he who initiated LIBS's popular early August orchid forays.

Meet at the parking lot near Big Reed Pond by 10:30 and walk/hike about 3/4 mile to the dedication site at (what used to be called) rest area 4.

Directions: Take Route 27 through the South Fork and through Montauk village to East Lake Drive, which is about 2.8 miles past the village. Go left (north) on East Lake Drive for about 2.0 miles and turn right into the parking area for Big Reed Pond. (If you are on East Lake and come to Little Reed Pond on your right, you have gone a little too far.) Follow the "LIBS" arrows tacked to the trees. If you have questions or require closer access to the dedication site, call Skip Blanchard at 631-421- or 516-299-3041. Modest refreshments will be served on our return to the parking area.

Oct. 5, 2002 @ 2:00 PM (Saturday)

**Hubbard County Park, Flanders, NY
Hike Leaders: Skip and Jane Blanchard**

Continue on to this site after the Beitel dedication, or make this a nice afternoon trip by itself. Join Jane and Skip on a visit to their recently discovered Autumn Coral-Root (*Corallorhiza odontorhiza*) site. This species was unknown on Long Island for about 65 years, yet as many as 400 plants of this interesting orchid have been counted at the Flanders site. For those who are interested, after ogling the orchid, we will continue out to the Peconic Bay between the mouths of Hubbard Creek and Mill Creek.

Directions: Take Route 24 southeast out of Riverhead [or take the Sunrise Highway (Route 27) to exit 65 and go northwest on Route 24] and find Red Creek Road on the northeast side. (Red Creek Road is about 0.8 miles northwest of the entrance to Sears-Bellows County Park.) Immediately after entering Red Creek Road, turn left through and open gate and up and up an unpaved road. Park at Black Duck Lodge.

Programs

October 8, 2002* Tuesday, 7:30 PM

Tim Wenskus: "Managing Urban Forests"

Learn about forest restoration and invasive species control efforts in Alley Pond Park and Forest Park, Queens County. Tim is Chief Forester in the Forest Crew, New York City Department of Parks.

Location: Bill Paterson Nature Center,
Muttontown Preserve, East Norwich

November 12, 2002* Tuesday, 7:30 PM

Marilyn Jordan: "The Role of Fire and Land Use History in Shaping Upland Pine Barrens Ecological Communities: Implications for Management."

Dr. Jordan is Stewardship Ecologist for the Long Island and South Fork/Shelter Island Chapters of The Nature Conservancy.

Note: Executive Board meeting at 6:15 PM,

All members are welcome

Location: Bill Paterson Nature Center,
Muttontown Preserve, East Norwich

December 10, 2002* Tuesday, 7:30 PM

Joann Knapp: "Propagation of Eastern

Wildflowers" Have you looked past the flowers and leaves? Joann will discuss seeds, seed pods and hammer cuttings. She is a member of various plant societies, such as the Rock Garden Society and worked at the Planting Fields Arboretum for 25 years.

Location: Bill Paterson Nature Center,
Muttontown Preserve, East Norwich

*Refreshments and informal talk begin at 7:30.

Formal meeting starts at 8:00 PM.

Directions to Muttontown: 516-571-8500

Directions to Stony Brook: 631-354-6506

New Members

Richard Wines, Jamesport, NY

Nancy Gilbert, Jamesport, NY

Thomas Plant, Bay Shore, NY

Mary Plant, Bay Shore, NY

**Long Island Botanical Society
Muttontown Preserve
Muttontown Lane
East Norwich, New York 11732**

